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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,042	01/15/2002	Armin Schlemmer	P21790	2920

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EXAMINER

ROSS, DANA

ART UNIT PAPER NUMBER

3722

DATE MAILED: 02/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/045,042

Applicant(s)

SCHLEMMER ET AL.

Examiner

Dana Ross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Faxing of Responses to Office Actions

1. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 872-9302 or, for responses after final rejection only, to (703) 872-9303. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the examiner.

Specification

2. The disclosure is objected to because of the following informalities: The disclosure does not discuss drawing reference numbers 431 and 432 as shown on Figure 6 of the drawings.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2, 8, 12, 13, 15-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2, the term "essentially" is a relative term which renders the claim indefinite. The term "essentially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably

apprised of the scope of the invention. The limitation of the shape of the working part has been rendered indefinite.

Claim 8, the term "at least about" is a relative term which renders the claim indefinite. The term "at least about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The limitation of the width of the indexable tip to the diameter of the working part has been rendered indefinite.

Claims 12, 13, 15-17, and 22-39, the term "about" is a relative term which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The limitation of the angles have been rendered indefinite.

Claim 13, A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481

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(Bd. App. 1949). In the present instance, claim 13 recites the broad recitation “between about 15° and 75°”, and the claim also recites “between about 25° and 45°” which is the narrower statement of the range/limitation.

Claim 16, A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 16 recites the broad recitation “about $88^{\circ} \pm 1.7$ ”, and the claim also recites “about $88^{\circ} \pm 0.3$ ” which is the narrower statement of the range/limitation.

Other claims with a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) are, claim 23, 24, 26, 27, 29, 30, 32, 33, 35-38. Applicant should review all claims to ensure there are no broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim).

Claims 18-39, the term "minimum" is a relative term which renders the claim indefinite. The term "minimum" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The limitation of the vertical distance of the cutting edge from the supporting area in a region of the obtuse-angle corner has been rendered indefinite.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 18-33, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 4,776,732 (Hale). In regards to claims 18-21 and 39, Hale teaches an indexable tip for a cutting tool for machining of metals and alloys comprising a flat supporting area 215, a face 114 opposite the supporting area, the flat supporting area and the face being arranged to form open spaces 217 coupling the support area and the face, and six circumferential cutting edges 116 arranged to form alternating acute 112 and obtuse 113 angled corners which are also rounded, wherein a vertical distance of the cutting edges from the supporting area in a region of the obtuse angled corners is a minimum with a center hole as an attachment device (fig. 1, 2, 3, col. 3, lines 24-34).

In regards to claims 22-33, Hale teaches the acute angled corners are about 88° (col. 3, lines 48-52) and the angles between the cutting edge and supporting area up to 12° (col. 4, lines 20-23).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,464,433 (Shaffer) in view of U.S. Pat. No. 4,776,732 (Hale). In regard to claim 1, Shaffer teaches a cutting tool for drilling and turning, comprising a base body 24 comprising a clamping part 40 and a working part 26 axially spaced from each other; and an indexable tip 28, releasably connected to the working part 26, having at least one circumferential cutting edge (fig. 2, col. 3, lines 24-36). Shaffer teaches the elongated support member and the method of making the support member. Shaffer does not teach the specifics of the indexable tip comprising a hexagonal shape with obtuse and acute corner angles. Hale teaches a hexagonal indexable tip 111 with obtuse 113 and acute 112 corner angles (fig. 1 and col. 3, lines 17-34).

In regard to claims 2-6, Shaffer teaches the working part 26 essentially cylindrical (fig. 3), and the indexable tip 28 positioned at an end of the working part remote from the clamping part 40 (fig. 2) with the working part 26 comprising a flute running in a direction of a tool axis and a form-locking seat for the indexable tip 28 (fig. 3), wherein the indexable tip 28 is seated on the working part 26, at least one cutting edge slightly projects from the working part (fig. 2 and 3) and the flute running in a direction of the tool axis is formed with a twist (fig. 2).

In regard to claim 7, Hale teaches the indexable tip comprises alternately obtuse and acute corners and six straight cutting edges (fig. 1 and col. 3, lines 17-34).

In regard to claim 8, Shaffer teaches the working part 26 and Hales teaches the hexagonal indexable tip 111. Shaffer in view of Hale does not teach the dimensions of the indexable tips or the greatest width of the indexable tip in comparison to the working part. It would have been an obvious matter of design choice to increase or decrease the greatest size of the hexagonal indexable tip as taught by Hale, since such a modification would have involved a mere change in the size of the component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

In regard to claim 9, Hale teaches at least one cutting edge comprises three cutting edges, and wherein a trajectory of at least a part of one of the three cutting edges projects slightly beyond an outer contour of the working part (fig. 3, col. 3, lines 24-29).

In regard to claims 10-13, Shaffer teaches the base body 24 comprises at least one bore 42 for inserting at least one of coolant and lubricant, and an exit 46 obliquely arranged relative to the tool axis directed at the indexable tip (col. 3, lines 43-51).

In regard to claims 15-17, Hale teaches at least one cutting edge comprising a plurality of cutting edges arranged to form acute angled corners having an angle of about 88° (col. 3, lines 48-52).

Therefore it would have obvious to one of ordinary skill in the art at the time the invention was made to modify the elongated support member as taught by Shaffer to include the indexable hexagonal tip as taught by Hale for the purpose of balancing the forces on the cutting edges on either side of the obtuse angle (see Hale, col. 1, lines 60-62).

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,464,433 (Shaffer) in view of U.S. Pat. No. 4,776,732 (Hale) in view of U.S. Pat. No. 5,460,464

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(Arai et al.). Shaffer in view of Hale teach all aspects of the claimed invention as described in the above claim 1 rejection. Shaffer in view of Hale do teach the center hole of the indexable tip is eccentrically positioned outside a center of the working part. Arai et al. teaches the center hole eccentrically positioned (col. 10, lines 58-62).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify the support member as taught by Shaffer and the indexable hexagonal tip as taught by Hale to include the eccentrically positioned center hole as taught by Arai et al. for the purpose of tighter contact between support member and indexable hexagonal tip (see Aria et al. col. 10, lines 62-65).

10. Claims 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,776,732 (Hale) in view of U.S. Pat. No. 5,876,154 (Enderle). Hale teaches all aspects of the above claim 18 rejection. Hale does not teach the second section bordering the supporting area. Enderle teaches a hexagonal tip with angled first and second sections, the second section angled and bordering the supporting area between around 12° and 25° (fig. 4a, 4e, col. 4, lines 48-50).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the indexable tip as taught by Hale to include the second angled section bordering the supporting area as taught by Enderle for the purpose of having a rake face section adjoining the cutting edge which has a positive rake angle relative to the cutting insert plane (see Enderle, col. 1, lines 6-15).

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Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:


- U.S. Pat. No. 3,859,699 (Lindskog)
- U.S. Pat. No. 5,695,303 (Boianjiu et al.)
- U.S. Pat. No. 6,224,300 (Baxivanelis et al.)
- U.S. Pat. No. 4,558,975 (Hale)
- U.S. Pat. No. 5,688,083 (Boianjiu)

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Ross whose telephone number is (703) 305-7764. The examiner can normally be reached on Mon-Fri 7:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (703) 308-2159.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

dmr
February 19, 2003


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